ABSTRACT OF THE DISCLOSURE

A solid oxide fuel cell is formed by arranging a fuel electrode layer and an air electrode layer on both surfaces of a solid electrolyte, respectively, a fuel electrode current collector and an air electrode current collector outside the fuel electrode layer and the air electrode layer, respectively, and separators outside the fuel electrode current collector and the air electrode current collector. In a first embodiment, a fuel gas and an oxidant gas are supplied from the separators to the fuel electrode layer and the oxidant electrode layer, respectively, through the fuel electrode current collector and the air electrode current collector, respectively. Each separator is formed by laminating a plurality of thin metal plates at least including a thin metal plate in which a first gas discharge opening is arranged in a central part and second gas discharge openings are circularly arranged in a peripheral part, and a thin metal plate with an indented surface. Gases discharged from the separators can be supplied to entire areas of the electrode layers through the current collectors, so that electric power generation can be performed.